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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/810,956	03/16/2001	Aiko Hanyu	COS-822	7257
7590 11/30/2006				
Jim Wheelington Fina Technology, Inc. P.O. Box 674412 Houston, TX 77267-4412			EXAMINER TARAZANO, DONALD LAWRENCE	
			ART UNIT 1773	PAPER NUMBER

DATE MAILED: 11/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/810,956

Applicant(s)

HANYU ET AL.

Examiner

D. Lawrence Tarazano

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 09/05/2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,6-11,14-19,24,25,28-30,33,35-38,41 and 42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,6-11,14-19,24,25,28-30,33,35-38,41 and 42 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

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DETAILED ACTION

1. The applicants stated in their Reply Brief that they had not been given the proper time to respond to the examiners rejections. In order to make the issues at the Board of Patents Appeals clear, the examiner had withdrawn the finality of the prosecution in the case. The examiner's position is unchanged and the rejection set forth in the examiner's answer is repeated here.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 6-11, 14-19, 24, 25, 28-30, 33, 35-38, and 41-42 are rejected under 35 U.S.C. 102(b) as being anticipated by JP-11-060833.

The Japanese patent document teaches monolayer heat sealable films made from a composition comprising metallocene-catalyzed propylene copolymer (A) blended with a second propylene polymer (B). The blend of (A) to (B) is 1:99 to 50:50 by weight of the fore mentioned polymers.

Polymer (A) is isotactic in nature and had a random distribution of the comonomer. The comonomers present include those claimed and the amount of comonomer (1-15%) overlaps the claimed range.

Section [0005]

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(A) random copolymer comprising a propylene and a comonomer, ethylene, and/or an α -olefin having 4 to 20 carbons and comprising an isotactic structure obtained by a metallocene catalyst as constituent (A) (called "propylene random copolymer," hereafter).

Polymer (B) is random copolymer made by a conventional catalyst.

JP-11-060833 uses a metallocene catalyst system, the same comonomers, and the same comonomer amounts. Given the catalytic systems and the starting materials, there is reason to believe that the blend of materials taught would have the claimed physical properties.

The applicants claim a seal initiation temperature "of less than 125°C", and lowest sealing temperature (shown for prior art blend) has value of 127°C (merely a working example).

Summary of the Examples

Seal Sealing Temperature °C	Polymer A Metallocene Catalyzed Polypropylene		Polymer B Conventional Polypropylene	
128	5.8% Ethylene	9 parts	5.9% Ethylene	91 parts
127	6.7% Ethylene	9 parts	5.9% Ethylene	91 parts
136	None		5.9% Ethylene	100 parts

The relationship of Comonomer Content and Sealing / Melting Temperatures:

First: It is well known in the art that the comonomer disrupts the crystal structure of the primary monomer and the more random the packing the lower the melting point / seal initiation temperature.

This same concept is clearly conveyed by 11-060833 [0012]:

First, the content of the comonomer unit measured in a ^{13}C -NMR method falls in a range of 1 to 10 % by weight. If the content of this comonomer unit is less than 1 % by weight, the low-temperature heat sealability of the resulting film is insufficient. Moreover, if it exceeds 10 % by weight, the antiblocking ability and rigidity of the film decline.

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Thus, higher monomer content would clearly decrease the values, this is shown by the effect of increasing the monomer content from Example I of 5.8% comonomer to Example II of 6.7%. A higher level of ethylene comonomer would place the seal initiation temperature within the claimed range.

Second: The comparative example made solely of polypropylene B, has a sealing point of 136 °C which is significantly higher than the values shown for the blends having 9 parts of polypropylene A. The amount of Polymer A can be varied according to the reference. In the examples 9 parts of A are used, and addition of this polymer decreases the sealing temperatures of the compositions. An increase in the amount of polymer A about that amount would also decrease the heat sealing temperature.

Both an increase in the amount of ethylene in polypropylene A and the overall amount of polypropylene A over the values used in the examples would decrease the sealing point of the composition. The effects of both of these parameters are clearly shown in the examples and there is significant room above the examples in the ranges for these values and still be within the working framework of the reference.

The differences between 127 °C and 125 °C are not critical:

The melting points of polymers are not sharp so there is experimental error in the values; a two-degree melting difference is not very significant. Furthermore, the two samples are not compared to each other under the same conditions / equipment.

Compositions having a sealing temperature of 125 °C are clearly envisaged by the disclosure based on the comonomer contents and blends suggested. The working example is very close (125 °C), and the reference clearly teaches either using more polymer low

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melting polymer or increasing the comonomer content decreases the melting point. The applicants are merely practicing within the parameters set forth in the reference.

The applicants claim oriented films; a film going through an extruder will be oriented to some degree.

It has been held that where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness has been established. *In re Best*, 195 USPQ 430, 433 (CCPA 1977). When there is sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not." *In re Spada*, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 6-11, 14-19, 24, 25, 28-30, 33, 35-38, and 41-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP-11-060833.

6. The comonomer content as discussed above is within the claimed range. The prior art examples (Polypropylene A) have low comonomer content. It would have been obvious to one having ordinary skill in the art to have used higher comonomer contents, within the breath of the disclosure, for applications in which a lower melting point was desired. Furthermore, it would

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have been obvious to one having ordinary skill in the art at the time the invention was made to have increased the amount of polymer A in order to decrease the seal initiation temperature of the heat seal layer.

7. Claims 1, 6-11, 14-19, 24, 25, 28-30, 33, 35-38, and 41-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 0-669-348 A-1 in view of JP-11-060833 or the converse.

The European patent teaches oriented films having a base layer of isotactic polypropylene and a heat sealable propylene layer made by metallocene catalysis. The patent also shows that is common in the art to use a sealable layer on a polypropylene substrate to improve the sealing properties of the film.

The Japanese document teaches compositions comprising random / isotactic propylene copolymer made by metallocene catalysis, which have good seal properties.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the materials taught by JP-11-0608833 as the surface layer in the films taught by EP 0-669-348 A-1, in order to produce heat sealable films. The metallocene catalyzed polypropylenes taught are functionally equivalent heat sealable materials, and this is merely the substitution of one functionally equivalent material for another.

It also would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the polymers taught by JP-11-060833 in multilayer and optionally oriented films since it is common in the art to make conventional isotactic polypropylene heat sealable by the addition of a sealable layer.

Response to Arguments

8. The applicants argue that the claims 1, 6-11, 14-19, 24, 25, 28-30, 33, 35-38, and 41-42 are not anticipated by JP-11-060833 under 35 U.S.C. 102(b).

9. While the applicant claim a wide range of seal initiation temperatures, the examiner is focused on the upper end of the range (125 °C). The applicant argues that the two-degree difference between the prior art and the claimed invention is significant.

a. First, the examples of the prior art have relatively a low comonomer content and the prior art clearly teaches that higher comonomer contents or amounts of polymer can be used. The increase in comonomer content or amount of metallocene catalyzed polymer furthermore an increase in the amount of metallocene catalyzed polypropylene (A) would make the blend have a lower seal initiation temperature.

b. Second, seal initiation temperature of polymers is not a sharp measurement. Polymers do not have the sharp melt characteristics of pure small organic molecules.

c. Third, a two-degree difference should not be considered to be significant. One must remember that these are measured quantities with no experimental error has been reported for the values. It would be scientifically irresponsible to believe the applicants value of 125 °C is clearly different from a value of 127 °C as reported in the prior art. **There is no indication that these temperatures were measured under the same conditions.**

10. The applicants state that a two-degree difference is significant when sealing films. This may be true, but it appears that a side-by-side comparison of the materials under exacting

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conditions would be necessary to elucidate these differences. It must be clear that there really is a difference.

11. The applicants argue that the catalyst systems are not the same.

12. While the catalyst systems are not identical, the same class of catalyst is used, and it behaves in a similar manner. While there may be some differences in the products observed, the materials are not claimed in a way to differentiate them from the prior art. The claimed melt properties, seal initiation temperature, gloss, etc... are all characteristics of polymers produced by metallocene catalysis.

13. The applicants state that varying the amount of ethylene in the copolymer is undesirable. Please, understand that the ethylene content suggested is neither, outside of the amounts claimed by the applicant, nor the amount suggested by the reference.

14. The applicants argue that the claims 1, 6-11, 14-19, 24, 25, 28-30, 33, 35-38, and 41-42 are not obvious over JP-11-060833 under 35 U.S.C. 103(a).

15. As set forth above, there is clear reason to believe that claimed materials are clearly taught by JP-11-060833. There is a clear relationship between the seal initiation temperature of the polymer and the comonomer content. Since a low comonomer content is shown in the examples, it would have been obvious to one having ordinary skill in the art to have increased the comonomer content within the scope of the disclosure 1-15%, in order to decrease the seal initiation temperature of the polymer.

16. The applicants argue that the claims 1, 6-11, 14-19, 24, 25, 28-30, 33, 35-38, and 41-42 are not obvious over JP-11-060833 and EP 0 669 348 under 35 U.S.C. 103(a). This combination

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of references merely builds upon the previous rejections. It merely provides motivation to produce multilayer structures.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to D. Lawrence Tarazano whose telephone number is (571)-272-1515. The examiner can normally be reached on 8:30 to 6:00 (off every other Friday).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol Chaney can be reached on (571)-272-1284. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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